

bly sap runs and slime fluxes. 7) Larvae require very young tender shoots for survival.

We thank the National Park Service, Santa Monica Mountains National Recreation Area for their cooperation in permitting this work. We strongly urge the listing of the species as endangered for the reasons cited.

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New courtship posture in females of two Chilean butterflies: Rejective or receptive?

Two species of *Hylephila* Billberg inhabit the large lawns of the Chilean air force academies at the "comuna" El Bosque of Santiago. *H. fasciolata* (Blanchard) Gay and *H. signata* (Blanchard) Gay are on the wing from late August to early May in successive broods. Both are common, successfully surviving the blades of the lawn mowers. The males are typical perchers, using the taller grass blades, flowers of *Taraxacum officinale* (L.) Wibb., *Leontodon taraxacoides* (Vill.) Merat, *Bellis perennis* L. (all Asteraceae), and bare soil as perching sites from which they intercept passing *Colias vautieri*, *Tatochila mercedis* and their congeners. In mating couples the female carries the male when disturbed (see *H. signata* couple in Figure 1 with male hanging below). The females have a special way of laying their white, hemispherical, smooth eggs: they walk on the grass with their abdomen curved below and forward, searching for the proper oviposition sites with the exploratory tip of the abdomen.

October 27, 1993 was a typical clear, warm, late spring day in Santiago (air temperature about 28 C). At 14:00 hrs, high flight activity was observed over the lawns. In the air, only a few cm above the grass, a male *H. fasciolata* courted a female. The female landed on the ground on the edge of a small opening in the lawn about 3 inches in diameter. The male landed immediately after her and about 1.5 inches behind. He approached the female in small jumps, each time fluttering his wings in what looked like a showy, ritual "dance." It is possible that the fluttering released pheromones from his front wing androconial patches. During the male's courtship, the female was totally passive and did not move, but when the male got closer, the female suddenly began to vibrate both her hind legs in an up-and-down motion, in effect creating an impenetrable barrier. The behavior appeared to be an effective new repulsive posture. The vibration was too fast to detect whether the legs moved together in parallel or in a scissors-like movement. When the male got closer and was only a few mm behind and to her side, the female flew away.

A few days later (November 1, 1993), 150 km to the north, at Pichicuy, on the Pacific coast, at 15:00 hrs, a low courtship flight of the dwarf blue *Pseudolucia benyamini* Balint was observed. The flight was not more than 30 cm over the ground and among the cushion-like food plants *Chorizanthe vaginata* Benth (Polygonaceae). The female landed on a flowering head and started to walk on it with the male following close behind her. Once again I saw the hind legs vibrating in the female, but within about five seconds they copulated. Thus, it is



Fig. 1 Mating *Hylephila signata* (Blanchard) Gay, Santiago, Chile, 1200m, 10 Dec 1993.

unclear to me whether this copulation was achieved in spite of the “rejecting” movements or whether the vibration is possibly a receptive posture. More observations are needed to establish a final conclusion.

Although nothing has been published specifically on Chilean skippers, general discussions of mating behavior may be found in Scott, J. A., 1986, *The Butterflies of North America*, Stanford University Press, California, 583 pp.; Shapiro, I. D., 1975, Courtship and mating behavior of the Fiery skipper, *Hylephila phylaeus* (Hesperiidae), *J. Res. Lepid.*, 14 (3):125-141; and Shapiro, I. D., 1977, Interaction of population biology and mating behavior of the Fiery Skipper, *Hylephila phylaeus* (Hesperiidae), *Amer. Midl. Nat.* 98 (1):85-94.

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